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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,746	09/10/2003	Oliver Horn	008388-7	3402

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EXAMINER
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FORD, JOHN K

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/658,746	Applicant(s) HORN ET AL.	
	Examiner John K. Ford	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/25/06
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's response of April 25, 2006 has been studied carefully. The new limitations added to the claims are treated below.

The following section is reproduced from section 2181 of the MPEP.

"A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

- (A) the claim limitations must use the phrase "means for" or "step for;"
- (B) the "means for" or "step for" must be modified by functional language;  
and
- (C) the phrase "means for" or "step for" must not be modified by sufficient structure, material or acts for achieving the specified function."

Applicant's claim 1 as amended on April 25, 2006, appears to meet the first two criteria, but fails on the third prong of the analysis. The relevant section from MPEP 2181 related to the analysis of the third prong is reproduced below:

"With respect to the third prong of this analysis, see *Seal-Flex*, 172 F.3d at 849, 50 USPQ2d at 1234 (Radar, J., concurring) ("Even when a claim element uses language that generally falls under the step-plus-function format, however, 112 ¶ 6 still does not apply when the claim limitation itself recites sufficient acts for performing the specified function."); *Envirco Corp. v. Clestra Cleanroom, Inc.*, 209 F.3d 1360,

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54 USPQ2d 1449 (Fed. Cir. 2000) (holding “second baffle means” does not invoke 35 U.S.C. 112, sixth paragraph, because the word “baffle” itself imparts structure and the claim further recites the structure of the baffle); Rodime PLC v. Seagate Technology, Inc., 174 F.3d 1294, 1303–04, 50 USPQ2d 1429, 1435–36 (Fed. Cir. 1999) (holding “positioning means for moving” does not invoke 35 U.S.C. 112, sixth paragraph, because the claim further provides a list of the structure underlying the means and the detailed recitation of the structure for performing the moving function removes this element from the purview of 35 U.S.C. 112, sixth paragraph); Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531, 41 USPQ2d 1001, 1006 (Fed. Cir. 1996) (holding “perforation means...for tearing” does not invoke 35 U.S.C. 112, sixth paragraph, because the claim describes the structure supporting the tearing function (i.e., perforation)). In other cases, the Federal Circuit has held otherwise. See Unidynamics Corp. v. Automatic Prod. Int'l, 157 F.3d 1311, 1319, 48 USPQ2d 1099, 1104 (Fed. Cir. 1998) (holding “spring means” does invoke 35 U.S.C. 112, sixth paragraph). During examination, however, applicants have the opportunity and the obligation to define their inventions precisely, including whether a claim limitation invokes 35 U.S.C. 112, sixth paragraph. Thus, if the phrase “means for” or “step for” is modified by sufficient structure, material or acts for achieving the specified function, the USPTO will not apply 35 U.S.C. 112, sixth paragraph...

Accordingly, the phrase “*said flow controllers are arranged to form a selectively operable means for producing, individually or in selected combinations direct*

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heating..... etc” does not invoke 35 USC 112, 6<sup>th</sup> paragraph because the phrase “*flow controllers are arranged to form a selectively operable*” appearing before the “means for producing” recitation is a specific modification of sufficient structure, material or acts <sup>for</sup> achieving the specified function. Accordingly all of the functional language regarding the capabilities and intended operating modes in the last paragraph of claim 1 is treated as set forth in MPEP 2114, incorporated here by reference.

In an attempt to distinguish amended claim 1 from the prior art relied upon by the examiner, applicant stresses the operating modes that his device is capable of (see last paragraph of claim 1). This is generally not availing in distinguishing an apparatus claim from prior art that teaches the claimed apparatus, but not necessarily the method of operation of that apparatus. See MPEP 2114, incorporated here by reference. There is no proper “means plus function” recitation in claim 1, but rather the last two paragraphs of claim 1 amount to a vague recitation involving an in-determinant number of “flow controllers” (perhaps as few as two flow controllers that apparently correspond to at least two of valves 28, 44, 54, 72 and 90) and functional recitations of intended manners of operation.

In several previous office actions the examiner set forth the following warning: “In presenting this rejection the examiner explicitly incorporated by reference MPEP 2114 and its determination of how functional language regarding intended manners of operation and intended functions are not given patentable weight in claims directed to apparatus.” (Office action of 4/29/05, page 2, lines 14-16). Applicant’s July 29, 2005 response presented no

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arguments addressing the Examiner's interpretation of the claims and of what is stated in the MPEP, therefore the Examiner expected that no new arguments would be forthcoming given this chance to respond. Applicant's November 29, 2005 did include a new response in the form of MPEP 2173.05(G) and an argument that the examiner must give applicant's functional language consideration. To the extent that applicant has claimed enough structure to support the capability of performing all of the underlying function(s), the examiner is willing to extend consideration, however applicant has claimed significantly less structure (namely significantly fewer valves than all of valves 28, 44, 54, 72 and 90) than is necessary to perform all of the underlying functions. Even if applicant were claiming all of the valves necessary, if corresponding valves are found in the prior art then the capability would be met and the rejections sustained even if the references failed to explicitly teach operating the valves in the modes contemplated by applicant (consistent with MPEP 2114).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 and 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is meant by the recitation in claim 1, line 22, in the recitation "to selectively open and close said fluid flow connections". There appear to be two

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distinctly different flow connections recited in claim 1, line 17 and claim 1, line 19. It is unclear to which of these previous recitations the recitation in claim 1, line 22, "to selectively open and close said fluid flow connections" refers.

Finally, it is unclear how many "flow controllers" are claimed in claim 1 as a minimum. It appears that, minimally speaking, one "flow controller" in the coolant circuit and one "flow controller" in the liquid medium heat transfer circuit is being claimed in claim 1, lines 22-24. Is that correct, or not? This is at least the second time the examiner has asked this question and received no answer. Continued failure to answer this question will result in more protracted prosecution than is necessary.

In claim 1, line 25-34, recites a host of functions that, apparently, require all of valves 28, 44, 54, 72 and 90 to be claimed. The examiner noted above that applicant explicitly claims only two flow controllers as a minimum (i.e. only two of valves 28, 44, 54, 72 and 90). The three unclaimed valves are required to perform all of the functions specified in claim 1, lines 25-34. The functions claimed in claim 1, lines 25-34 are incommensurate in scope with the structure applicant is willing to claim to perform them. Thus, claim 1 is inherently ambiguous.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 1-3 and 10-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The apparent recitation of, at minimum, two flow controllers, one in each of the coolant circuit and liquid heat transfer medium circuit, is claiming fewer valves in the various circuits are necessary to support all of the functional recitations in claim 1, lines 25-34. To the extent that no two valves that applicant has disclosed can, by themselves, support all of the functions recited in claim 1, lines 25-34, applicant has failed to comply with the written description requirement of 35 USC 112, first paragraph.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Herta (2002/0100290) and Saperstein (5,265,437) and optionally Brocx (5,322,217) and optionally Rafalovich et al (6,059,016).



Herta discloses all of the claimed features of claim 1, including a compressor 21, condenser 22, evaporator 30, a heat source 10, a heat exchanger 17, a heat/cold reservoir 33 and a heating/cooling surface 12, which heats a vehicle interior wall 37 by virtue of fan 13 blowing air through heating/cooling surface 12. Elements 12 and 17 are connected in parallel. Valve 20 controls flow of engine heat transfer medium through element 12. A circulation pump 18 is shown. A second evaporator 25 is shown.

No driver's bed heating/cooling surface is disclosed in Herta. Herta does disclose a compartment heater 12, however.

Saperstein teaches a sleeping heat exchanger 69 connected in parallel with the compartment heater 68 to permit the sleeper area to be conditioned by the circulating medium. The flow of circulating medium is controlled by a plurality of valves 70 that permit the medium to flow selectively through either heat exchanger 68, heat exchanger 69 or both heat exchangers 68 and 69 at the same time as disclosed in col. 7, lines 9-28, incorporated here by reference.

To have connected a driver's heat exchanger in parallel, fluidically, with respect to heater 12 of Herta using selective valving as described in Saperstein in col. 7, lines 9-28, incorporated here by reference, to permit Herta's system to comfortably condition an over-the-road truck with a sleeper compartment, by allowing the selective use of one or

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both heat exchangers depending on which compartment or compartments were occupied, would have been obvious to one of ordinary skill in the art.

Brocx is optionally relied upon to teach the art recognized equivalence of using a main compartment heat exchanger alone (Figure 9) and a main heat exchanger and sleeper unit connected in parallel (Figure 10) thereby reinforcing the teachings of the combination of Herta/Saperstein discussed above, if there is any question about connecting heaters for different compartments fluidically in parallel with respect to the engine coolant.

Rafalovich et al (6,059,016) is optionally relied upon to show the skill level in this art. As disclosed in Figure 34, a compartment heater 222, three way valve 900 and thermostatic valves 940 and 970 are clearly shown. These valves (900, 940 and 970) selectively direct flow to a plurality of parallel-connected heat exchangers (i.e. 222, 910 and 920) from a storage heating and cooling device (similar to that disclosed by Herta). To the extent that the examiner has to respond to the (below the ordinary skill level) argument advanced at the top of page 6 of applicant's November 29, 2005 response, Rafalovich clearly discloses that one of ordinary skill in this art would have possessed a skill level sufficient to connect valved heat exchangers (such as disclosed by Saperstein) in parallel with respect to a source of heated or cooled liquid (such as the heating and cooling system of Herta) notwithstanding the fact that Saperstein only

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discloses a cooling system and not a combined heating/cooling system and that Brocx discloses only a heating system and not a combined heating/cooling system.

The examiner has now shown applicant that connecting valved heat exchangers in parallel with respect to a source of temperature conditioning fluid is known in cooled systems (Saperstein), heated systems (Brocx) and, now, combined heated and cooled systems (Rafalovich). It is submitted that, at the level of skill evident from the study of these references, these are very simple modifications.

Furthermore, the valves disclosed by the prior art correspond in number and location to those set forth in claim 1 notwithstanding applicant's remarks to the contrary. The fact that the references don't explicitly teach all of the modes contemplated by the functional recitations of claim 1 is of no moment since apparatus claims must distinguish structure from prior art structure based on what the apparatus **is** rather than what the apparatus **does**. See MPEP 2114.

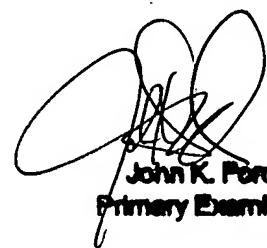
Claims 1-3 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 1-3 and 10-12 above, and further in view of Baier.

To have made the rear heat exchanger of the prior art discussed above of a plate type heat exchanger to take up less room in the sleeper compartment and advantageously avoid the use of a separate fan would have been obvious to one of ordinary skill in the art.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to John K. Ford at telephone number 571-272-4911.



**John K. Ford**  
**Primary Examiner**